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VARIABILITY IN RAINFALL DROP-SIZE DISTRIBUTIONS OBSERVED AT THE ARM DARWIN SITE

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ABSTRACT

The variability of rainfall drop-size distributions as a function of large-scale atmospheric conditions and cloud/storm characteristics is investigated using observations from the Atmospheric Radiation Measurement (ARM) Climate Research Facility's site at Darwin, Australia. Drop-size distribution observations are obtained from an impact disdrometer over a four-year period (2006–2010). The suite of complementary long-term observations from the ARM collocated surface instruments, including a millimeter cloud radar and nearby radiosondes, etc., provides a means to describe the cloud and storm characteristics as well as local and regional atmospheric state accompanying these statistics of the drop-size distributions.